

Innovative Technique for the Closure of Rectovaginal Fistula Using Amplatzer™ Septal Occluder

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INTRODUCTION

Rectovaginal fistulas (RVF) result from an abnormal epithelial connection between the vagina and the rectum, allowing the intestinal contents to pass through the vagina.¹ Patients may clinically present with vaginal faeces or gas discharge in addition to inflammation in the pelvic cavity, which may lead to severe infection and poor quality of life.²

RVF is seen in women who previously received treatment for a malignant disease in the pelvic region. The malignancies in the pelvic area are often treated with radiotherapy. This treatment results in tissue damage and poor healing.³ Management of postoperative RVF is difficult and the results are often unsatisfactory. Currently there is no widely accepted and standardized treatment for RVF.^{3,4}

In the treatment of RVF, various surgical flaps (endorectal or vaginal), vascular tissue flaps (Martius, gracilis), grafts or biomaterials have been used.^{3,5,6} This case shows the first results using the Amplatzer™ Septal Occluder for the closure of rectovaginal fistula.

PRESENTATION OF CASE

An 81-year-old female patient, with a known history of coronary artery disease and chronic obstructive lung disease (COPD), using nifedipine 1*1, budesonide, formoterol fumarate dihydrate 2*1, isosorbide mononitrate 1*1, atorvastatin 40 mg, ASA 300 mg, metoprolol 50 mg, developed paraplegia due to a cerebrovascular event 5 years ago, and 1 year ago received 50 Gy (1.8 Gy per fraction), definitive radiotherapy and cisplatin (40 mg / m² weekly) treatment for local advanced stage cervical cancer (IIB) according to the FIGO 2018 classification.⁷

The patient's complaint of faeces discharge from the vagina started 6 months ago, and primary repair was done 3 times; 6, 3 and 1 month earlier. The patient developed a recurrence every time. Colostomy was recommended because the patient had frequent urinary tract infections and maceration due to vaginal discharge. It could not be performed because the patient was ASA 4 from an anaesthetic point of view. Bowel management catheter idea was abandoned because of the difficulty in using the catheter and insertion into the rectum.

The patient's urinary tract infection and skin maceration could not be controlled. Because of this, the FDA-approved Amplatzer™ Septal Occluder 9-ASD-010 [ASO; St. Jude Medical (now Abbott), St. Paul, MN] was applied to the patient's rectovaginal 1 cm defect.

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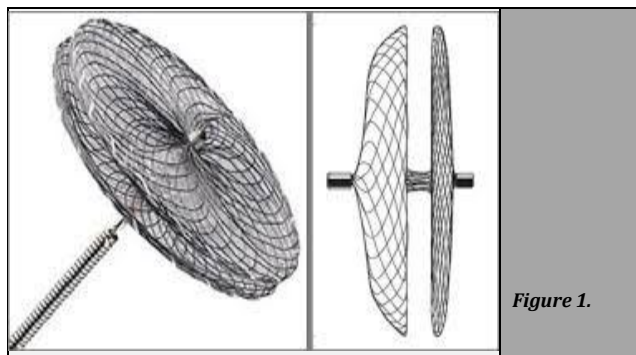
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DISCUSSION OF MANAGEMENT

The procedure was performed with the patient in the lithotomy position, under spinal anaesthesia. Intravenous cefazolin (2,000 mg) and metronidazole (500 mg) were administered 15 - 30 min before the application as prophylaxis.

The patient's leucocytosis and C-reactive protein values decreased, and leukocyte esterase became negative in the postoperative controls. The faeces discharge from the vagina had stopped. The patient was discharged on the 7th day post operatively after the completion of the antibiotic dose. Informed consent was obtained from the patient before treatment.

RVF can be seen in women at any age, and it significantly deteriorates quality of life. The majority of RVF is due to obstetric injury during long-term delivery, where continuous pressure affecting the rectovaginal septum may lead to ischemia and necrosis. Less common aetiologies include congenital anomalies, gynaecological and colorectal surgery complications, inflammatory bowel disease, pelvic infection, and radiotherapy received at that site.⁸

RVF treatment is often considered extremely difficult and requires an experienced surgeon and an appropriately selected technique. A wide variety of techniques have previously been proposed. The primary repair of the fistula with these techniques had a success rate of 70 - 97 %, after a failed attempt in one or more repairs, the success rate was found to be 40 - 85 %.⁹ although various surgical and non-surgical repair methods were used, a gold standard procedure could not be determined.

There are various factors affecting the results of surgical treatment, such as the aetiology of the fistula, the duration of its presence, the health of the surrounding tissues, the choice of surgical procedure, smoking history, patient comorbidities, and the presence of stoma.¹⁰ This low success rate in the surgical treatment of rectovaginal fistula encouraged surgeons to look for new methods with the developing technology.

The first treatment for RVF was performed by Moore et al. with the placement of a mesh, using acellular porcine dermal graft.¹¹ Shelton et al. used human acellular dermal matrix as graft.¹² Göttgens KW reported in their series in which they used collagen matrix mesh (permacol™) that the absence of fistula at 1 year was 0.64 (95 % confidence interval 0.30 - 0.85). Three of their patients (25 %) developed recurrence, and in one patient (8.3 %), the fistula failed to close within 3 months after the surgical procedure.³

CONCLUSIONS

The FDA approved Amplatzer™ Septal Occluder, which is used to close the septal defects in cardiology, can be used to close the fistula tract in rectovaginal fistulas, in patients with advanced age, a high ASA score, difficulties for closure during surgery and contraindications for stoma opening. This is the first report of the Amplatzer™ Septal Occluder successfully being used for the repair of recurrent RVF. We have the belief that this innovative technique can enhance and expand the options for surgical repair and success rates.

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Disclosure forms provided by the authors are available with the full text of this article at jemds.com.

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